

**Amendments to the Claims:**

Please amend claim 8 as indicated below.

Please cancel claims 11-14, 17 and 18 without prejudice.

Please add new claims 21-26 as presented below.

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

Claim 1. (Previously Presented) A method for setting the system parameters of a scanning microscope comprising the steps of:

Controlling an acquisition of an image of a specimen with a control computer,  
Inputting at least one image quality feature after an image of the specimen is acquired, the at least one image quality feature including at least one of a noise of detected image data, a signal-to-noise ratio of the detected image data, a bleaching behavior of a fluorescent marking of a specimen, a detection speed of an image data set to be detected, a contrast, and a resolution;

Converting the at least one image quality feature into at least one system parameter of the scanning microscope by the control computer, the at least one system parameter including at least one of a power level of a light source, a wavelength of the light source, a scanning speed of a scanning unit, a diameter of a confocal detection pinhole, an amplifier characteristic of a confocal detector, and a number of individual images to be detected for averaging of an image; and

Setting the at least one system parameter;

wherein an image quality expected to be achievable, for the at least one inputted image quality feature, is calculated in the next acquired image and outputted to the user.

Claim 2. (Cancelled)

Claim 3. (Cancelled)

Claim 4. (Original) The method as defined in Claim 1, wherein an inputted image quality feature, upon conversion into system parameters of the scanning microscope, influences or modifies several system parameters of the scanning microscope.

Claim 5. (Previously Presented) The method as defined in Claim 1, wherein the system parameters calculated and presently set by the control computer of the scanning microscope are outputted and/or displayed to a user of the microscope for information.

Claim 6. (Previously Presented) The method as defined in Claim 1, wherein the image quality expected to be achievable, for the at least one image quality feature is displayed to the user.

Claim 7. (Previously Presented) The method as defined in Claim 20, wherein a color indication is displayed

in red if the selected system parameter setting is contradictory or results in information losses;

in yellow if the calculated system parameter setting generates artifacts; or

in green if the selected system parameter setting appears useful.

Claim 8. (Currently Amended) The method as defined in Claim 1, wherein a number of images of the same ~~(preferably fluorescent-marked)~~ specimen still expected to be detectable is outputted and/or displayed to the user.

Claim 9. (Previously Presented) The method as defined in Claim 8, further comprising calculating the number of images of the same specimen still expected to be detectable, and wherein previously detected images are taken into account, with consideration of the system parameter setting applicable in the context of a particular detection.

Claim 10. (Previously Presented) The method as defined in Claim 1, wherein each image quality feature is set using a control element provided for it.

Claims 11-14. (Cancelled)

Claim 15. (Previously Presented) A scanning microscope comprising: a control computer, an operating console for inputting at least one image quality feature after an image of the specimen is acquired, the at least one image quality feature including at least one of a noise of detected image data, a signal-to-noise ratio of the detected image data, a bleaching behavior of a fluorescent marking of a specimen, a detection speed of an image data set to be detected, a contrast, and a resolution, whereby the at least one image quality feature can be converted by the control computer into at least one system parameter of the scanning microscope that can be set, the at least one system parameter including at least one of a power level of a light source, a wavelength of the light source, a scanning speed of a scanning unit, a diameter of a confocal detection pinhole, an amplifier characteristic of a confocal detector, and a number of individual images to be detected for averaging of an image,

wherein an image quality expected to be achievable, for the at least one inputted image quality feature, can be calculated by the control computer in the next acquired image and outputted to the user.

Claim 16. (Previously Presented) The scanning microscope as defined in Claim 15, wherein the scanning microscope is a confocal scanning microscope.

Claim 17. (Cancelled)

Claim 18. (Cancelled)

Claim 19. (Previously Presented)      The method as defined in Claim 6, wherein the at least one image quality feature is displayed to the user graphically.

Claim 20. (Previously Presented)      The method as defined in Claim 6, wherein the at least one image quality feature is displayed to the user in color.

Claim 21. (New)      A method for setting the system parameters of a scanning microscope comprising the steps of:

Controlling an acquisition of an image of a specimen with a control computer,  
Inputting at least one image quality feature after an image of the specimen is acquired, the at least one image quality feature including at least one of a noise of detected image data, a signal-to-noise ratio of the detected image data, a bleaching behavior of a fluorescent marking of a specimen, a detection speed of an image data set to be detected, a contrast, and a resolution;

Converting the at least one image quality feature into at least one system parameter of the scanning microscope by the control computer, the at least one system parameter including at least one of a power level of a light source, a wavelength of the light source, a scanning speed of a scanning unit, a diameter of a confocal detection pinhole, an amplifier characteristic of a confocal detector, and a number of individual images to be detected for averaging of an image; and

Setting the at least one system parameter;  
wherein an image quality expected to be achievable, for the at least one inputted image quality feature, is calculated in the next acquired image and outputted to the user; and  
wherein an inputted image quality feature, upon conversion into system parameters of the scanning microscope, influences or modifies several system parameters of the scanning microscope.

Claim 22. (New) The method as defined in Claim 21, wherein the system parameters calculated and presently set by the control computer of the scanning microscope are outputted and/or displayed to a user of the microscope for information.

Claim 23. (New) The method as defined in Claim 21, wherein a number of images of the same specimen still expected to be detectable is outputted and/or displayed to the user.

Claim 24. (New) A scanning microscope comprising: a control computer, an operating console for inputting at least one image quality feature after an image of the specimen is acquired, the at least one image quality feature including at least one of a noise of detected image data, a signal-to-noise ratio of the detected image data, a bleaching behavior of a fluorescent marking of a specimen, a detection speed of an image data set to be detected, a contrast, and a resolution, whereby the at least one image quality feature can be converted by the control computer into at least one system parameter of the scanning microscope that can be set, the at least one system parameter including at least one of a power level of a light source, a wavelength of the light source, a scanning speed of a scanning unit, a diameter of a confocal detection pinhole, an amplifier characteristic of a confocal detector, and a number of individual images to be detected for averaging of an image,

wherein an image quality expected to be achievable, for the at least one inputted image quality feature, can be calculated by the control computer in the next acquired image and outputted to the user; and

wherein an inputted image quality feature, upon conversion into system parameters of the scanning microscope, influences or modifies several system parameters of the scanning microscope.

Claim 25. (New) The scanning microscope as defined in Claim 24, wherein the system parameters calculated and presently set by the control computer of the scanning microscope are outputted and/or displayed to a user of the microscope for information.

Claim 26. (New) The scanning microscope as defined in Claim 24, wherein a number of images of the same specimen still expected to be detectable is outputted and/or displayed to the user.